

TOWN OF LOS ALTOS HILLS

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Residential Building Guide

This Guide has been developed to serve as a simplified explanation of building requirements within the Town of Los Altos Hills. The Guide can help answer general questions that arise during residential construction or remodeling. Please visit the Town website (<http://www.losaltoshills.ca.gov/>) for additional information or call the Building Official at **941-7222** ex. 234 between 8:00 and 9:00 a.m. for further assistance.

This Guide is not intended to serve as code. (See published codes for referenced sections found in this guide.)

Beginning on January 1, 2014, the Los Altos Hills Building Department is required by State law to enforce the 2013 Edition of California Building Standards Codes (a.k.a., Title 24 of the California Codes of Regulations).

2013 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE

The California Building Standards Code consists of the following 12 parts:

- Part 1 Administrative Code
- Part 2 California Building Code (CBC)
- Part 2.5 California Residential Code (CRC)
- Part 3 California Electrical Code (CEC)
- Part 4 California Mechanical Code (CMC)
- Part 5 California Plumbing Code (CPC)
- Part 6 California Energy Code* (California Energy Code, Part 6 - Effective July 1, 2014)
- Part 7 (Currently Vacant)
- Part 8 California Historical Building Code
- Part 9 California Fire Code (CFC)
- Part 10 California Existing Building Code
- Part 11 California Green Building Standards Code (CAL Green)
- Part 12 California Reference Standards Code

All single family dwellings are required to be built under the 2013 California Residential Code (CRC). The 2013 California Green Building Standards Code (CGBSC) requires new homes and buildings to utilize sustainable construction practices in the areas of energy efficiency, water efficiency and conservation, material conservation and environmental quality. ***New homes shall be Green Point Rated with a minimum of 50 points or LEED certified, both of which meet the California Green Building requirements.*** California Green Building Standards may be required for other structures, additions and alterations.

**See Planning Department for details.*

All architects, engineers, designers, developers, owners and contractors MUST be familiar with the codes in effect at the time of plan submittal. The Department as required by State law CANNOT approve projects that do not comply with the codes in effect at the time of plan submittal.

GENERAL INFORMATION

Permit Issuance Hours

Building Permits are issued between the hours of 8 - 10 a.m. and 2 - 4 p.m. Monday through Friday.

Construction Hours

Weekdays: 8 a.m. to 5:30 p.m.

Saturdays: No heavy equipment allowed on Saturdays (domestic power tools allowed 9:00 a.m. to sunset)

Sundays and Holidays: No construction allowed. (Check list of public holidays)

Parking

Parking is not allowed on pathways. All parking is to be accommodated on the site under construction.

**See Engineering Department for construction operation plan requirements.*

Zoning, Setbacks & Height-

**See Planning Department for Further Guidelines*

Grading/Drainage/Erosion Control

**See Engineering Department for Further Guidelines*

Grading is prohibited between October 15 and April 15, except with special approval. No grading is permitted within ten feet of the property lines of any site except as required for construction of pathways or to allow access for driveways crossing a property line.

All grading operations shall be carried on between the hours of 8:00 a.m. and 5:30 p.m., Monday through Friday. No grading on weekends.

OTHER APPROVALS:

Engineering Department:

- Prior to completion of any plans, the Engineering Department should be contacted at (650) 941-7222 to find out the requirements due to the location of any easements, and if the property is located in a special flood hazard area.

Planning Department:

- Prior to completion of any plans, the Planning Department should be contacted at (650) 941-7222 to find out the requirements for the proposed location and type of the project.

Geotechnical Review:

- Check with the Planning Department; required for new homes. Or by Building Official per building project size and site conditions.

PROCEDURES FOR OBTAINING BUILDING PERMITS **FOR NEW CONSTRUCTION**

Check with the Planning and Engineering Departments to confirm you have received the necessary approvals.

Fill Out Building Application Form.

1. For Building Permit, fill out the Building Application Form, submit three sets of working drawings (stamped and signed by the professional who drew them), two sets of structural calculations, two sets of energy calculations, two copies of the soils report and any Green Building Information required (See the Building Plan Requirement section of this Guide.)
2. **Wait For a Call From Us to Pick Up Your Permits.** At that time, applicable fees will be paid. Building permit fees can include: plumbing, heating, electrical, plan check, storm drainage, bedroom, energy, housing fee for a new residence, structural additions fee, roadway impact fee and plan retention fee. A final deposit of \$100 or 1% of the valuation will be charged

Call for All Needed In-Progress Inspections. During construction, please call for inspections at least 24 hours in advance. We do not take specific times for inspections, you may request A.M. or P.M. only. Inspections called without approved plans on the job or when not ready will be subject to a reinspection fee paid at Town Hall prior to the next inspection.

Final Inspection: Prior to the Final Inspection being made to any new residence or addition, the following requirements must be met:

1. A final inspection by both the Planner and Engineer **must** occur before a final inspection is requested from the Building Official.
2. Fire Marshal project final verification.
3. Submit a copy of the certified Green Point Rated Certificate from Build it Green.
4. Verify with the Building Department all forms and letters have been submitted as required during the course of construction; 2013 Cal Green mandatory measures forms, Title-24 documentation, Special Inspection documents, engineering letters, HERS certificates, etc.
5. A subcontractor list of all those who worked on the job must be completed on the Town form and turned into the Finance Department. Every subcontractor on the list must have a current business license with the Town for the period of time that they worked in Los Altos Hills.
6. A landscape plan must be submitted and approved by the Site Development Committee (See Planning Department for details).

7. A landscape deposit of an amount set by the Site Development Committee must be paid prior to final inspection.

Note: A final inspection must be requested and approved prior to the release of the final deposit. If a final inspection is not requested and obtained prior to expiration of the permit, the final deposit shall be forfeited to the Town of Los Altos Hills.

SECTION R110 CERTIFICATE OF OCCUPANCY

R110.1 Use and occupancy. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the *building official* has issued a certificate of occupancy therefore as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the *jurisdiction*. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid.

R110.3 Certificate issued. After the *Building Official* inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department of building safety, the *Building Official* shall issue a certificate of occupancy which shall contain the following:

1. The building *permits* number.
2. The address of the structure.
3. The name and address of the owner.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code.
6. The name of the *Building Official*.
7. The edition of the code under which the *permit* was issued.
8. If an automatic sprinkler system is provided and whether the sprinkler system is required.
9. Any special stipulations and conditions of the building *permit*.

WHAT WORK REQUIRES PERMITS?

R105.1 Required (CRC). Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the *Building Official* and obtain the required *permit*.

Re-Roof

Class A fire retardant roofing is required for a new roof and for a re-roof of 300 sq. ft. or more of an existing structure.

Demolition Permits

A permit from the Bay Area Air Quality Management District is required for all demolition work. You can pick up an application and informational packet at Town Hall published by the B.A.A.Q.M.D. A letter of their approval (J#) must be submitted prior to applying for a demolition permit through the Town Building Department. You must have PG&E approval for removal of utilities prior to receiving your demolition permit. Please see the Town's incentive for property owners to deconstruct buildings on their property for recycling and reuse. **The Town strongly recommends that building materials be recycled.**

The Santa Clara County Recycling Hot Line can be reached at 1 800 533-8414.

R105.2 Work exempt from permit. *Permits shall not be required for the following.*

Exemption from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. **Note:** *Planning Department approval is required for some of the following exempted items. See Planning Dept. for requirements.*

Building:

1. One-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15 m²). ***Planning Dept. requirements.***
2. Fences not over 7 feet (1829 mm) high. See ***Planning Dept. requirements.***
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. Sidewalks and driveways. ***Planning Dept. requirements.***
6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
10. Decks not exceeding 200 square feet (18.58 m²) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a *dwelling* and do not serve the exit door required by Section R311.4. ***Planning Dept. requirements.***

R105.5 Expiration. Every *permit* issued shall become invalid unless the work authorized by such *permit* is commenced within 180 days after its issuance, or if the work authorized by such *permit* is suspended or abandoned for a period of 180 days after the time the work is commenced. The *building official* is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

R108.6 Work commencing before permit issuance. Any person who commences work requiring a *permit* on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to a fee established by the applicable governing authority that shall be in addition to the required *permit* fees.

WHAT ARE THE BUILDING PLAN REQUIREMENTS?

Plan submittals must clearly indicate the nature and scope of work. A typical plan submittal may include a site plan (plot plan), foundation plan, the existing floor plans, proposed floor plans including electrical, plumbing and mechanical plans, roof plan, sections, framing details, exterior elevations and supporting energy, soils reports and structural calculations.

Anyone can prepare plans, however, plans must be drawn to scale and clearly show the scope of work being proposed. If any portion of a structure deviates from conventional framing, the building official may require the preparation of plans, drawings, specifications or calculations for that portion by or under the direct supervision of a registered engineer or architect. The documents for that portion shall bear the stamp and signature of the licensee who is responsible for their preparation. Specific plan requirements will depend largely upon the extent, nature and complexity of the work to be done. Some items listed below may not be required for your specific project. BE SURE TO INCLUDE ALL OF THE PERTINENT INFORMATION AND DRAWINGS.

Three (3) complete sets of drawings and two (2) copies of structural calculations, soils report, and Title 24 Energy report showing the following must be submitted for any new residence or addition.

- *Plan Size:* Prepare plans on paper that is at least 18 inches x 24 inches in size.
- *Clarity:* All plans shall be prepared to be sufficiently readable and clear for creating a digitized record. Plans shall be quality blue or black ink line drawings with uniform light (white) background color.
- *Dimensions:* Plot Plans, Floor Plans and other plan view drawings shall be fully dimensioned and shall have a north arrow.
- *Scale:* All drawings shall be drawn to an adequate scale with scale indicated. (1/4" = 1'-0" is standard)
- *Signature:* The person who prepared the plans must sign each sheet. If any of the plan sheets are prepared by a licensed architect or registered engineer, that individual must stamp and "wet" sign at least two copies of each of the sheets he or she has prepared in accordance with the California Business and Professions Code prior to plan approval. Plans for elements of the structure designed by others must be reviewed and signed by the Engineer or Architect of record. [California Business and Professional Code 5536.1, 6735]

PROJECT INFORMATION - On the first sheet of the plans, provide the following information:

- Name of Architect, Engineer or Designer: The printed name, address and telephone number of the person who prepared the plans.
- Address and Owner: List the street address of the property and the name of the legal owner of the property.
- An Index of the Drawings: List each sheet number and a description in an Index of the Drawings.
- Scope of Work: State the complete scope of work to be performed under this permit.
- Building Area: State the area in square feet of the new residence per each story, the garage, and the total area.
- Deferred Submittals: List all proposed deferred submittals (e.g. roof trusses, pre-fab stairs, etc.). Deferred submittal documents shall be reviewed by the Architect or Engineer of record with a notation indicating that the documents have been reviewed and are in general conformance with the design of the building prior to being submitted to the Town for approval.

SITE PLAN:

- Show the property lines and the location of the proposed new building, other structures on the site, location of easements, and locations of adjacent streets or alleys.
- Show front, side and rear setback dimensions, dimensions to easements, and dimensions between buildings, if there is more than one building on the site.
- Show finish floor elevations, elevations of finish grade adjacent to buildings, established street grades, drainage patterns, locations, and gradients of cut or fill slopes.
- Prior to issuance of building permit, all the easements including private storm drain easement through adjacent parcels shall be recorded. *See Engineering Department for requirements.*
- The developer shall include interim erosion control provisions and schedules in the construction plans for areas which will not have permanent erosion control features installed (such as landscaping) prior to occupancy so that erosion and sediment control can be sustained through the rainy season. *See Engineering Department for requirements.*

FLOOR PLAN: The Floor Plan must show all rooms, their dimensions and the USE of each room shall be labeled.

- The buildings shall not exceed 3 stories per CRC sec. 1.1.3.
- Provide automatic residential fire sprinkler system per CRC sec. R313.2. (Contact Fire Marshall for requirements)
- Provide a minimum of 7 ft dimension (in any direction) in all habitable rooms other than kitchen per CRC Section R304.3. At least one room shall have a minimum of 120 sq. ft. net floor area and all other habitable rooms a minimum of 70 sq. ft. per CRC Section R304.1 & R304.2.
- At least one side-hinged exterior door shall be provided for egress purposes with a minimum clear opening of 32" wide and 78" high per CRC Section R311.2.
- Indicate size and elevation of landings at all exterior exit doors as per CRC Section R311.2 & R311.3.
- There shall be a floor or landing on each side of a door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 2% slope as per CRC Section R311.3.
- The floor or landing shall be provided on each side of the exterior door at max. 1.5" below the top of threshold for egress doors and max. 7.75" for non-egress doors per CRC Section R311.3, except:

- Exterior egress doors may have exterior landing not more than 7.75" below the top of the threshold provided the door does not swing over the landing, except storm and screen doors.
- A landing is not required where a stairway of two or fewer rises is located on the exterior side of the non egress door, provided that the door does not swing over the stairway.
- Egress doors shall be readily open able from the egress side without the use of a key or special knowledge or effort per CRC Section R311.2.
- Vertical Egress: Habitable levels more than 1-story above/below the level of an egress door may not have a point located more than 50' from an egress stair. (Sec. R311.4)
- Each bedroom shall have an emergency egress and rescue window or door with a clear net opening of 5.0 square feet if located on a floor at grade level, and 5.7 square feet on all other floors. The window or door shall have a minimum clear opening height of 24", a minimum clear opening width of 20" and shall be installed so the bottom of the clear opening is not greater than 44" above the finished floor per CRC Section R310.1.
- An emergency escape and rescue opening with a finished sill height below the adjacent ground level shall have window wells and comply with CRC Section R310.2. Bars, grilles, grates or similar devices installed on rescue windows, window wells or exits shall be equipped with approved release mechanisms in compliance with CRC Section R310.4.
- Provide detailed information for stairway and landing construction. Indicate clear width (36" minimum per CRC Section R311.7.1), rise (4" minimum and 7.75" maximum per CRC Section R311.7.5.1), run (10" minimum per CRC Section R311.7.5.2), headroom (minimum 80" per CRC Section R311.7.2), landings (36" minimum length in travel direction and width not less than the stairway width per CRC Section R311.7.6).
- A flight of stairs shall not have a vertical rise larger than 12 feet (3658 mm) between floor levels or landings. (CRC Section 311.7.3)
- Spaces underneath interior stairways shall be protected with a minimum of ½" gypsum board on walls and under-stair surface and any soffits (CRC Section R302.7).
- Stairways shall have a minimum of one handrail of each continuous run of treads or flight of stairs with four or more risers installed in accordance with CRC Section R311.7.8
- Provide guards at open-sided walking surfaces, including stairs, ramps, landings and balconies, which are more than 30" above grade or floor below per CRC Section R312. Guards shall be not less than 42" in height, except where the top rail also serves as a handrail where the guard shall have a height of not less than 34" and not more than 38" per CRC Section R312)
- Open guards shall have intermediate rails or an ornamental pattern such that a sphere 4" in diameter cannot pass through, except openings in guards on the sides of stair treads where the sphere shall not exceed 4 3/8". The triangular opening formed by the riser, tread and bottom rail at the open side of a stairway shall be of a maximum size such that a sphere of 6" in diameter cannot pass through the opening as per CRC Section R312)
- Window fall protection. (See CRC Section R312.2) *
- Provide safety glazing in the locations as described in CRC Section R308.4.
- For all occupied spaces, provide exterior openings for natural light (8% of floor area) per CRC Section R303.1.
- Artificial lighting may be provided in-lieu of natural lighting to provide average of 6 foot-candles over the area of the room at a height of 30" above floor level per CRC Section R303.1 Exception 2.
- An artificial light source shall be provided in the immediate vicinity of each landing of interior stairways and at top landing of exterior stairways per CRC Section R303.6.
- Provide natural ventilation (4% of floor area) or a mechanical system for all habitable rooms per CRC Section R303.1.

- Indicate the location of crawl space access with a minimum of 18"x24" floor opening or 16"x24" wall opening per CRC Section R408.4.
- Provide cross ventilation for the space between the bottom of floor joists and the earth underneath the building per CRC Section R408.1. The net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of crawl-space area with min. one opening within 3 ft of each corner of the building. The total area of ventilation openings may be reduced to 1/150 where the ground surface is treated with an approved vapor retarder material. Openings shall be covered with the materials as listed in CRC Section R408.2.
- Rodent proofing: Annular spaces around pipes, electric, cable, conduits or other openings in bottom/sole plate at exterior walls shall be protected against the passage of rodents by closing such openings in accordance with the California Green Building Standards Code, chap4, Division 4.4. CRC R602.3.4.1.
- Roof ventilation required. See Section R806 CRC.
- Unvented attic and unvented enclosed rafter assemblies. See Section R806.5 CRC.
- Provide attic accesses with a minimum of 22"x30" opening and minimum 30" clear headroom per CRC Section R807.1.
- Provide a clear space of 24" in front of the water closet and a minimum 15" from its center to side wall or obstruction and a minimum of 30" center to center to any similar fixture per CPC Section 407.5.
- Shower stalls shall have a clear interior finish area of 1,024 square inches and be able to accommodate a minimum 30" circle at the threshold level. These clearances shall be maintained up to a height of 70" above shower drain per CPC Section 411.7.
- Bathtub/shower compartments: shall have a nonabsorbent surface extending 72" above the floor. (Sec R307.2)
- Provide hard-wired smoke alarms in all bedrooms, outside each sleeping area in the immediate vicinity of bedrooms, and on each story per CRC Section R314.3.
- Provide hard-wired carbon monoxide alarms outside each new sleeping area in the immediate vicinity of bedrooms and on each story per CRC Section R315.
- Openings shall not be installed in fire rated walls.
- Private garages shall be separated from the dwelling unit and its attic area by a minimum of ½" gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8" Type X gypsum board.
- Door openings between a private garage and the dwelling unit shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than 1 3/8" inches thick. Doors shall be self-closing and self-latching. Doors between a sleeping room and a garage are not permitted. CRC Section R302.5 & R302.6.
- Sump required in basements extending 24" below floor level. (CRC R405.2.3)
- Only fireplaces permitted by Bay Area Air Quality Management District shall be installed. Fireplaces shall comply with CMC Section 802.5 and 2013 CEC Section 150(e)
- Permanently installed wood-burning devices (fireplaces) must be:
 - A gas fireplace.
 - A U.S. EPA Phase II certified wood-burning device; or
 - A pellet-fueled device; or
 - A low mass fireplace, masonry heater or other wood-burning device of a make and model that meets EPA emission targets and has been approved in writing by Air Pollution Control Officer of the Bay Area Air Quality Management District. See BAAQMD website.

✓ (<http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Wood-Burning/Wood-Burning-Rule-Information.aspx>)

CEILING PLAN: If needed, the Ceiling Plan should show all ceiling heights, finishes, electrical and mechanical work.

- Required ceiling height is 7'-0" minimum in habitable space, hallways, bathrooms, toilet rooms, laundry rooms per CRC Section R305.1.
- Indicate the location of attic access.

ROOF PLAN: Show a plan view of the roofs.

- Indicate roof slope, roof slope direction, proposed roofing material and its fire-resistive classifications.
- All new and re-roofs of 300 sq. ft. or more shall be class "A" and non-reflective.
- Spark arrester must be installed on fireplace chimneys per CRC Section R1003.9.2. See separate handout on "*Spark Arresters*" for more information.
- Show the location and construction details of all skylights. Include skylights in the Title 24 Energy Compliance Reports.

ELEVATIONS: Show elevations or views of all sides of the building.

- Clearly show the maximum building height based on the definition in CRC Section R202.
- Indicate if the lower level is a basement or story, based on the definitions in CRC Section R202.
- Provide building with a weather-resistant exterior wall envelope per CRC Section R703.1.
- The exterior wall envelope shall include flashing as described in CRC Section R703.8. Specify the proposed exterior wall finish, material and thickness.
- Moisture content verification. Moisture content of framing members shall be verified in accordance with the California Green Building Standards Code, chap4, Division4.5. CRC R109.1.4.1

CROSS SECTIONS:

- At least one (1) detailed cross section is required. Provide additional sections where needed to fully explain the intended construction.
- Provide the important details of the relationship of foundations, floors walls, ceilings, roof and other construction. Be sure to indicate cross section cut lines on the Floor Plan.

DETAILS AND NOTES: Include all construction details of the foundation, floor, walls, ceilings, roof and how each system is connected, details of fireplaces, handrails, guardrails, and stairs (including rise and run). Provide all necessary notes to explain the planned construction.

- The top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge at the inlet of an approved drainage device a minimum 12 inches plus 2% per CRC Section R403.1.7.3. Provide elevations on the site plan to show compliance.
- Provide a minimum of 18" clearance between wood joists and 12" between wood girders and exposed earth, otherwise wood shall be naturally durable or preservative-treated wood per CRC Section R317.1.
- Provide/detail draft stops in floor/ceiling spaces above per CRC Section R302.
- Indicate the exterior finishes including the water-resistive barrier and all flashings. Refer to CRC Chapter 7 for specific requirements.
- Indicate two layers of Grade D paper between plywood shear panel and exterior lath per CRC Section R703.6.3.

- Provide details for a corrosion-resistant weep screed on all exterior stud walls at or below the foundation plate line a minimum of 4" above grade, or 2" above paved areas per CRC Section R703.6.2.1.
- Provide veneer design and installation details: thickness, anchors, backing, lintels and support systems.

WILDLAND-URBAN INTERFACE: -The purpose of this code is to provide minimum standards to increase the ability of a building to resist the intrusion of flame or burning embers being projected by a vegetation fire and contributes to a systematic reduction in conflagration losses through the use of performance and prescriptive requirements. *See Chapter 7A CBC. [SFM]*

For **new single family residential construction**, contact the Building Department for areas in Los Altos Hills that are in the designated Wildland –Urban Interface Fire Area. (Map is located at Town Hall)

STRUCTURAL PLANS: The following are minimum structural plan requirements for most projects based on CRC:

Foundation Plan:

- Indicate the type of foundation, and size and depth of footings. Include a dimensioned foundation plan with sufficient details to clearly show foundation construction. Include details of the floor to foundation connection and footing reinforcement details.
- All foundation designs for new residences in Hillside areas shall be designed and prepared by a civil or structural engineer licensed in the State of California and require a soils report.
- Provide a letter from Soils Engineer confirming that the foundation plan, grading plan and specifications have been reviewed and it has been determined that the recommendations in the soil report are properly incorporated in the plans.

Floor Framing Plan:

- Provide size, spacing and direction of floor beams or joists; include sub-floor sheathing and nailing.

Roof Framing Plan:

- Show size and location of roof beams, roof rafter and ceiling joist span and sizes, overhangs and details and indicate any required modifications of the existing roof plan.

Pre-Fabricated Roof Trusses:

- If trusses are to be used, provide 2 copies of the truss shop drawings, layout plan and calculations with the engineers stamp and wet signature, reviewed and signed approved by the project architect or engineer.
- If shop drawings are not submitted for review prior to issuance of the building permit, it shall be noted on the first page of the drawings that the truss shop drawings will be a deferred submittal.
- Submit the truss drawings for review at least two weeks prior to fabrication of the trusses.

Wind and Seismic Bracing. Indicate on the plans how the construction is to be braced against wind and seismic forces, either by conventional construction means or by engineered shear walls. If bracing is by engineered shear walls, dimension the length of each shear wall and show the structural sheathing material, nailing, bolting and hold downs where needed. Wind and seismic bracing calculations are required for "Hillside Area" houses. Design for a basic wind speed of 95 mph and exposure C.

Structural Details and Notes:

- Provide structural details such as post-to-beam connections, framing details, shear transfer details, material notes and specifications.

- Sleepers and sill plates on concrete or masonry in direct contact with the earth shall be of naturally durable or preservative-treated wood per CRC Section R317.1.
- Wood framing members, including wood sheathing, that rest on exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or preservative-treated wood per CRC Section R317.1.
- Provide 1/2" anchor bolts embedded a minimum of 7" into the concrete spaced a maximum of 6 feet apart per CRC Section R403.1.6 with 0.229" x 3" x 3" plate washer per CRC Section R602.11.1. *Note: Seismic design requirements apply due to nearby fault zones, hillside construction, soil and wind conditions.* R403.1.6.1
- Lots shall be graded to drain surface water away from foundation walls with grade falling a min. of 6" within the first 10 feet. Impervious surfaces within 10 feet of the building foundation shall be sloped a min. of 2 percent from the building per CRC Section R401.3. (NOTE: See Engineering Dept. for drainage requirements.)

Structural Calculations:

- Structural calculations are required for building components, including vertical load carrying members and the lateral force resisting system, which do not meet "Conventional Construction" provisions as defined in the California Building Code. If calculations are required, they must be stamped and signed by a California licensed architect or registered engineer. Calculations must be numbered by page and indexed for complex projects.

ELECTRICAL, MECHANICAL and PLUMBING PLANS:

Mechanical, plumbing and electrical plans shall include all information necessary to show how the space is to be heated, cooled and ventilated, how the plumbing fixtures are connected to plumbing system and how the electrical energy is distributed and connected to the building power system.

Specific mechanical, plumbing and electrical plan requirements will depend largely upon the extent, nature and complexity of the work to be done. The following are general guidelines for preparation and submittal of these plans.

Mechanical Plans:

- Show on the plans the installation of all mechanical work. NOTE: All equipment weighing more than 400 pounds requires structural calculations for lateral bracing and anchorage.
- All habitable rooms must have a heating system capable of maintaining a room temperature of 68o F at a location of 3 feet above the floor and 2 feet from exterior walls. Portable heaters shall not be used for compliance. Indicate on the plans the heating system or method to be used. CRC Section R303.9.
- Show the location of all HVAC equipment. Provide a one-line layout of the proposed duct and register system. Include duct length, size, register/boot size, cold air return location, and static pressure/volume at furnace location.
- Provide an equipment schedule with all specifications noted.
- Specify and note how condensate drains are routed and discharged via an indirect waste pipe to an approved plumbing fixture.
- For roof-mounted equipment, provide a roof plan with the location, size and weight of all equipment, location and size of ductwork, details of equipment anchorage, how equipment is being supported and details of required roof access. Provide a profile section through the roof and parapets or screen enclosure showing how equipment is

screened, (*see Planning Dept. requirements for noise*) if any, or show all equipment and ductwork on the elevation plans.

- For attic installed equipment, provide a section through the attic showing the location, size and weight of all equipment, details of equipment anchorage, how equipment is being supported, size and location of access opening, distance from opening to equipment, size and location of platforms and walkways, and required headroom and clearances.
- The walkway to attic appliance shall not exceed 20 ft unless the attic height exceeds 6 ft and it shall have solid flooring not less than 24" wide. There shall be a 30"x30" minimum working platform in front of the service side of the appliance as per CMC Section 904.10. There shall be a 120 volt receptacle outlet and a light fixture installed near the appliance and the light switch shall be near the attic access entrance.
- Ducts in a private garage and ducts penetrating the walls or ceilings separating the dwelling unit from the garage shall be constructed of a minimum 0.019 inch (no. 26 gage) sheet steel and shall have no openings into the garage per CRC Section R302.5.2.
- Note on plans Air ducts installed under a floor in a crawl space shall not prevent access and 18" minimum vertical clearance is required under ducts. (603.1 CMC)
- Single-wall metal pipe shall not be used as a vent in a dwelling/residential occupancy. (CMC 802.7.3)
- Bathrooms shall be provided with aggregate glazing area in windows of at least 3 sq ft, ½ of which must be openable Section R303.3. **Exception:** The glazed area shall not be required where artificial light and a local exhaust system are provided. The minimum local exhaust shall be 50 cfm for intermittent ventilation or 20 cfm for continuous ventilation in accordance with the California Mechanical Code, chap4, Exhaust air from the space shall exhaust directly to the outdoors.
- Bathroom exhaust fans shall be mechanically ventilated for purposes of humidity control. R303.3.1 *Note: Window operation is not a permissible method of humidity control.*
- Ducts used for domestic range ventilation shall be of metal and shall have smooth metal interior surfaces. Ducts for domestic range hoods shall serve cooking appliances. CMC 504.2
- Domestic clothes dryer vents not less than 4" diameter of approved material for moisture exhaust shall be provided. CMC 504.3.1. See CMC 504.3.1.2 for duct length requirements.
- Factory-built gas fireplaces shall be installed in accordance with their listing and the manufacturer's installation instructions. The manufacturer's instructions must be present on the job site for the installer and the inspector. *See floor plan notes above for additional details.*
- Mechanical exhaust fans which exhaust directly from bathrooms shall comply with ASHRAE 62.2, Section 5; exhaust fans shall be ENERGY compliant; exhaust fans shall terminate outside the building.
- Vent Terminals. Vent terminals that terminate through an outside wall of a building shall be located not less than 10 feet horizontally from an operable opening in an adjacent building. This shall not apply to operable openings that are not less than 2 feet below or 25 feet above the elevation of the vent terminal. CMC 802.8.6 (*Direct-Vent appliances would follow Sections 802.2.4 and 802.8.3 and the manufacturer's installation instructions for clearances to openings etc....*).

Electrical Plans:

- Show on the plans the installation of all electrical work and include an electrical legend.
- Indicate on the plans the size and location of electrical service, any other panels, all switches, lights, receptacles, smoke/carbon detectors, and any equipment requiring electrical connections (ranges, furnaces, etc.).
- All new electrical services shall be underground as per LAH code.....
- Provide panel schedules and load calculations to verify service is adequate for the loads.
- New electrical panels shall be installed in accordance with CEC Article 230.70, Article 240.24
- Working space - The clear working space in front of the panel shall be 30" wide by 36" deep with a minimum headroom clearance of 6'-6" (Article 110.26)
- Over-current devices are not allowed to be located above stairways. 240.24(F)
- Grounding (connect to earth) electrode systems in all new buildings shall be provided and installed as required per Article 250 III CEC. (250.52 Grounding Electrodes).
- The grounding electrode conductor shall be sized in accordance with 250.66.
- Grounding shall consist of a continuous grounding electrode conductor run from the panel to a ground rod (grounding electrode) and to the cold water pipe. Grounding of the electrical service at the main water line must be within the first 5' of water piping into the building. The underground water service shall not be used as the grounding electrode without supplemental electrode.[CEC250.52 (A)(1) and 250.53 (I)]
- All multi-wire branch circuits require a simultaneous means of disconnect at the source of supply. (Identified handle ties in single pole circuit breakers are permitted.) See Article 210.4 CEC.
- Bonding (connecting parts together) shall be installed according to Article 250 V CEC.
- Bonding shall consist of a continuous bond jumper installed at the water heater between the hot, cold, and gas lines.
- Note on plans bonding of piping systems and exposed structural steel as required in Article 250.104 CEC.
- Bonding Other Systems 250.94 CEC. An intersystem bonding termination is required at:
 1. Meter socket enclosure
 2. Service equipment enclosure
 3. Grounding electrode conductor
- Note when receptacles are Ground-Fault Circuit-Interrupter (GFCI) or Arc-Fault Circuit-Interrupter (AFCI) protected.
- Combination type **Arc-Fault Circuit Interrupters** (AFCI) shall be installed in **all** dwelling unit family rooms, living rooms, bedrooms, closets, hallways, and similar rooms/areas. (CEC 210.12)
- GFCI protected and tamper-resistant (TR) receptacles shall be installed in readily accessible locations in bathrooms, garages, outdoors, crawl spaces, kitchen, unfinished basements and receptacles within 6 ft of the outside edge of any sink as per CEC Section 210.8.

- Every room, kitchen and living space of dwelling units shall be provided with receptacle outlets installed so that no point along the floor line in any wall space is more than 6 ft from a receptacle outlet per CEC Section 210.52.
- A receptacle outlet is required on dwelling unit balconies, decks and porches. 210.52(E)
- All 15- and 20-ampers, 125- and 250-volt non-locking receptacles shall be listed **weather-resistant type**. CEC 406.8 (B) (1)
- **Switches Controlling Lighting.** Switches controlling line-to-neutral lighting loads must have a neutral provided at the switch location. CEC 404.2(C)
Exceptions: The neutral conductor isn't required at the switch location if:
 1. The conductors for switches enter the device box through a raceway that has sufficient cross-sectional area to accommodate a neutral conductor.
 2. Cable assemblies for switches enter the box through a framing cavity that's open at the top or bottom on the same floor level or through a wall, floor, or ceiling that's unfinished on one side.
- Lighting fixtures located within 3 feet horizontally and 8 feet vertically of the bathtub rim or shower stall threshold shall be listed for a damp location, or listed for wet locations where subject to shower spray. (CEC 410.10)
- Provide a wall switch controlling exterior light at all exterior entrances or exits as per CEC 210.70. *(For additional lighting and ventilation requirements see Energy Requirements below)*
- Raceways (conduits) installed underground or in wet locations, the interior of the raceway shall be considered a wet location. Insulated conductors shall be listed for wet locations. (CEC 300.5 & 300.9)
- Romex is not permitted in wet or damp locations. 334.12(B)
- Romex installed in crawl spaces must be protected. Cables smaller than # 8/3 or # 6/2 are no longer allowed to be secured/stapled to the bottom edge of floor joists. 334.15(C)

*See Kitchen and Bathroom handouts for additional electrical requirements

***Smoke Alarms: CRC R314.3.4** Extract from NFPA 72 section 29.8.3.4 Specific location requirements. The installation of smoke alarms and smoke detectors shall comply with the following requirements:

1. Smoke alarms and smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
2. Smoke alarms and smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F or exceed 100°F.
3. Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, smoke alarms and smoke detectors shall be mounted on an inside wall.
4. Smoke alarms or smoke detectors shall be installed a minimum of 20 Ft. horizontal distance from a permanently installed cooking appliance- **Exceptions:**
 - Ionization smoke alarms with an alarm-silencing switch or photoelectric smoke alarms shall be permitted to be installed 10 Ft. or greater from a permanently installed cooking appliance.
 - Photoelectric smoke alarms shall be permitted to be installed greater than 6 Ft. from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 Ft. distances would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code.
 - Smoke Alarms listed for use in close proximity to a permanently installed cooking appliance.
5. Installation near bathrooms. Smoke Alarms shall be installed not less than a 3 Ft. horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent the placement of smoke alarm required by other sections of the code.

6. Smoke alarms and smoke detectors shall not be installed within 36 in. horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
7. Smoke alarms and smoke detectors shall not be installed within 36 in. horizontal path from the tip of the blade of a ceiling suspended (paddle) fan.
8. Where stairs lead to other occupied levels, a smoke alarm or smoke shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction.
9. For stairway leading up from a basement, smoke alarms or smoke detectors shall be located on the basement ceiling near the entry to the stairs.
10. For tray-shaped ceiling (coffered ceilings), smoke alarms and smoke detectors shall be installed on the highest portion of the ceiling or on the slope portion of the ceiling within 12 in vertically down from the highest point.
11. Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4.
12. Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3.

Carbon monoxide alarms shall be installed on the ceiling or wall (above the door header) in each area/hallway adjacent to sleeping rooms, each story of the building, and any basement. Carbon monoxide alarms are not required if there is no fuel-burning appliances and where the garage is detached from the house. CRC 315.1

*See Kitchen and Bathroom handouts for additional electrical requirements.

Plumbing Plans:

- Show on the plans the installation of all plumbing work.
- Show on the plans the location of all plumbing fixtures, hose bibs and water heaters.
- Show the location, materials and installation requirements of all piping located outside the building. Note the dimensions where minimums must be met at fixtures (toilets, shower stalls, etc.).
- **CLEANOUTS:** A cleanout is required at the upper end of every drainage pipe with the following exceptions:
 - a. Horizontal branches less than 5' long, unless they serve sinks or urinals.
 - b. Pipes, which slope 18° or more from the horizontal.
 - c. Pipes above the first story.

A cleanout is required every 100' and for each aggregate change of direction exceeding 135 degrees. Cleanouts must be accessible. Under floor cleanouts must be within 20' of an access opening and there must be a clear passageway at least 18" high and 30" wide between the access opening and the cleanout. This means that any ducts or pipes, which cross this passageway, must have 18" clear space under them, which may require some digging. Twelve inches clear space is required in front of a cleanout 2" or smaller and 18" for those larger than 2". Cleanouts for underground pipes must be extended to grade.

- Detail the installation of the water heater, including seismic bracing. (CPC 507.2) *Water heaters require two seismic straps; one located within the top 1/3 of the water heater unit and one at the bottom 1/3. The bottom strap must be located at least 4" away from the water heater controls.*
- **Pressure-Temperature Relief Valve (CPC 608.5)** All water heaters have a pressure/temperature (P/T) relief valve that is galvanized steel, hard-drawn copper, or CPVC. The valve shall be drained to the exterior, terminate toward the ground

maintaining between 6" and 24" of clearance from the ground, and point downward. The diameter of the valve opening (generally 3/4") must be maintained to the termination of the drain. Relief valve drains shall not terminate in a crawl space or an over-flow pan. No part of such drain pipe shall be trapped or subject to freezing, and the terminal end of the drain shall not be threaded. When approved by the Chief Building Official, such drain may terminate at other locations (i.e. laundry tub, floor sink, or floor drain) (CPC 608.5)

- Sediment Trap. A sediment trap shall be installed on the gas line downstream of the appliance shut-off valve and as close to inlet of the equipment as practical. (CPC 1211.8)
- Water heaters located in a garage must be elevated so the pilot light and controls are at least 18" above the garage floor surface (unless the unit is listed as flammable vapor ignition resistant). If subject to vehicular damage, adequate barriers must be installed (e.g. 4" diameter steel pipe filled with concrete installed in a footing measuring 12" in diameter and 3' deep and a minimum of 2'-9" above the finished floor). CPC 507.13
- Water pressure at the point of use must be no less than 15 psi and no more than 80 psi. If the pressure exceeds 80 psi, a pressure regulator is required.
- Expansion tank is required when pressure regulator is installed. (CPC 608.2)
- Plastic pipe material used for water service installed underground shall have an 18awg blue insulated copper **tracer wire** suitable for direct burial. (CPC 604.8)
- Special venting for island fixtures. (CPC 909) *See kitchen handout.*
- Vent pipes must terminate at least 6" above the roof and 1' from any vertical surface. The termination must also be 3' above or 10' horizontally from any openable skylight or window.

Water Efficient Plumbing Fixtures (California Civil Code 1101.4(a))

The California Civil Code requires that all existing non-compliant plumbing fixtures (based on water efficiency) throughout the house be upgraded whenever a building permit is issued for remodeling improvements. Residential building constructed after January 1, 1994 are exempt from this requirement. The following table shows the fixtures that are considered to be non-complaint and the type of water-conserving plumbing fixture that should be installed:

Type of Fixture	Non-Complaint Plumbing Fixture	Required Water-Conserving Plumbing Fixture (maximum flow-Rates)
Water Closet (Toilet)	Greater than 1.6 gallons/flush	1.28 gallons/flush
Showerhead	Greater than 2.5 gallons/minute	2.0 gallons/minute at 80 psi
Faucet -Bathroom	Greater than 2.2 gallons/minute	1.5 gallons/minute at 60 psi
Faucet -Kitchen	Greater than 2.2 gallons/minute	1.8 gallons/minute at 60 psi

Tempered glazing shall be installed in the locations listed below. Tempered glazing shall be permanently identified by a manufacturer marking that is permanently applied and cannot be removed without being destroyed (e.g. sand blasted, acid etched, ceramic fired, laser etched, or embossed). (CBC 2406.4,2403.1 and CRC 308.1,R308.4)

- Within a portion of wall enclosing a tub/shower where the bottom exposed edge of the glazing is less than 60 inches above the standing surface and drain inlet.
- Within 60 inches of a tub/shower where the glazing is less than 60 inches above the walking surface.

*See Kitchen and Bathroom handouts for additional electrical requirements.

ENERGY REQUIREMENTS:

- CF-1R and MF-1R forms completed, signed and printed on plans.
- Detail on the cover sheet, any special conditions or requirement notated in the energy analysis. (i.e.; HERS testing, Cool Roof, etc.)
- All new/replaced lighting shall be high efficacy lighting (i.e. fluorescent, LED) or shall meet the required alternatives. Prior to building final the certification CF-6R-LTG-01 form shall be completed by the responsible installer/contractor and presented to the inspector for final verification.
- All added or replaced lighting in a residential building shall be high efficacy (except kitchen lighting) or depending on the location of the lighting, be controlled by a dimmer switch or a manual-on vacancy (occupant) sensor. Form MF-1R details the mandatory measures and is no longer a check list.

Insulation:

- Indicate on the plans the exterior wall, ceiling and under floor insulation type and thickness.
- Minimum insulation is R-13 in wall, R-30 in ceiling and R-19 in raised floors. Note type and location of radiant barriers if required.

Windows:

- Indicate the size and type of all new windows and note the U-factor and SHGC ratings. Maximum U-factor is 0.40 and maximum SHGC is 0.40. Maximum glazing in west facing walls is 5% of the conditioned floor area. The 5% includes any west facing skylights.

Ducts:

- Indicate on the mechanical drawings the duct insulation type and thickness, and if HERS testing of the duct sealing is required. Note that duct sealing is required as a prescriptive requirement per CEC Table 151-C.

Equipment:

- Equipment shall meet California Energy Code requirements. Indicate on the mechanical drawings the AFUE or HSPF ratings of heating equipment and SEER or EER rating of cooling equipment.
- Minimum AFUE (Annual Fuel Utilization Efficiency) of all new gas fueled central furnaces must be at least 78% for equipment with output capacity less than 225,000 Btu/hr per prescriptive requirements for zone 4.
- Setback thermostats that comply with CEC sec.151 (f) 9 and sec.112 (c) shall be installed with all new space heating systems.

Title 24 Energy Compliance Reports:

- Provide one 8 1/2" x 11" copy of the Title 24 energy calculations and show on the plans the following forms:
 - Mandatory Measures form MF-1R.
 - Certificate of Compliance form CF-1R.
 - The following applicable forms are required to be completed and posted on the job site:
 - Installation Certificate CF-6R ENV 01 envelope.
 - Installation Certificate CF-6R LTG-01 lighting.
 - Installation Certificate CF-6R MECH 01 hot water.
 - Installation Certificate CF-6R MECH 04 space conditioning systems, ducts and fans.
 - Installation Certificate CF-6R MECH 05 indoor air quality and mechanical ventilation.
 - Installation Certificate CF-6R MECH 06 evaporative cooled condensing units.
 - Installation Certificate CF-6R MECH 07 evaporative coolers.
- These other report forms may also apply depending on the specific project:
Worksheets to calculate the thermal mass (WS-1R), calculate weight-averaged U-factors for prescriptive envelope compliance (WS-2R), and calculate solar heat gain coefficient (WS-3R).
Installation Certificate CF-6R MECH 02 solar domestic hot water systems.
Installation Certificate CF-6R MECH 03 pool and spa heating systems.
Installation Certificates CF-4R and CF-6R if a HERS rater is required (provided by the rater).

*See Title 24 handout for copies of required forms.

BUILD IT GREEN REQUIREMENTS: See Planning Dept for requirements

On October 9, 2008, the City Council adopted mandatory green building requirements for **new** residential construction. All new residence applications submitted for Site Development review must incorporate green building measures using either Build It Green's Green Point Rated or US Green Building Council's LEED for Homes checklists. The Green Building program is designed to be accessible, flexible and attainable, and encourages voluntary participation for remodels and additions. *This program complies with the CalGreen code minimum requirements.*

- Include Green Point or LEED for Homes checklist completed by qualified green building professional (Green Point Rater or LEED AP) with Building Permit application. Construction plans must reflect green building measures.
- There is a 50 point minimum that must be achieved, but those items selected on the checklist must be indexed to show the page and detail where they may be located in the plans. All items checked for points and incorporated into the approved plans must be completed prior to a final inspection approval and/or Certificate of Occupancy. The appropriate checklist may be obtained from the *Build It Green* website at www.builditgreen.org.

Resource:

GreenPoint Rated Guidelines and Checklist: <http://www.builditgreen.org/greenpoint-rated/guidelines>

LEED for Homes Guidelines and Checklist: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147>

CALGREEN REQUIREMENTS:

Scope. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in the 2014 California Green Building Standards Code. 301 .1 CGBSC

- Additions and alterations. The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration. 301.1.1 CGBSC
- See **Cal Green** handout for details

OTHER APPROVALS:

Engineering Department:

- Prior to completion of any plans, the Engineering Department should be contacted at 650 941-7222 to find out the requirements due to the location and any easements, and if the property is located in a special flood hazard area.

Planning Department:

- Prior to completion of any plans, the Planning Department should be contacted at 650 941-7222 to find out the requirements for the proposed location and type of the project.

Geotechnical Review:

- Cotton-Shires

Fire Department:

- Fire protection systems for homes in "Hillside Areas" and all homes provided with fire sprinklers or fire alarms shall have separate approval by the Fire Department. Contact the Fire Department for more information at (408) 378-4010.

Santa Clara County Environmental Health Department:

- Homes may be subject to Health Department review and approval if connection to a private sewage disposal system (septic) is to be made or if an on-site water well must be capped or relocated. If required, drawings approved by the Health Department must be submitted prior to permit issuance.

School District:

- All new residential buildings require payment of school impact (developer) fees. Refer to the handout "*School Impact Fees*" for additional information.

WHAT ARE THE REQUIRED INSPECTIONS?

R109.1.1 Foundation inspection. Inspection of the foundation *and footings* shall be made after poles or piers are set or trenches or *basement* areas are excavated and any required forms erected and any required reinforcing steel is in place and supported prior to the placing of concrete. The foundation *or footing* inspection shall include excavations for thickened slabs intended for the support of bearing walls, partitions, structural supports, or *equipment* and special requirements for wood foundations. *Materials for the foundation shall be on the job site except where concrete is ready-mixed in accordance with ASTM C 94. Under this circumstance concrete is not required to be at the job site.*

R109.1.1.1 Concrete slab and under-floor inspection. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduits, piping or other ancillary building trade products or equipment are installed, but before any concrete is placed or floor sheathing is installed, including the subfloor.

R109.1.2 Plumbing, mechanical, gas and electrical systems inspection. Rough inspection of plumbing, mechanical, gas and electrical systems shall be made prior to covering or concealment, before fixtures or *appliances* are set or installed, and prior to framing inspection.

Exception: Back-filling of ground-source heat pump loop systems tested in accordance with Section M2105. 1 prior to inspection shall be permitted.

R109.1.4 Frame and masonry inspection. Inspection of framing and masonry construction shall be made after the roof, masonry, all framing, fire stopping, draft stopping and bracing are in place and after *chimneys and vents to be concealed are completed and the rough electrical, plumbing, heating wires, pipes and ducts are approved.*

R109.1.4.1 Lath and gypsum board inspection. Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or gypsum board joints and fasteners are taped and finished.

R109.1.5 Other inspections. In addition to the called inspections above, the *building official* may make or require any other inspections to ascertain compliance with this code and other laws enforced by the *building official*.

* See TOWN OF LOS ALTOS HILLS BUILDING INSPECTION RECORD issued with the building permit for other inspections.

R109.1.5.1 Fire-resistance-rated construction inspection.

R109.1.5.2 Special Inspections. *For special inspections, see California Building Code, Chapter 17.*

R109.1.6 Final inspection. Final inspection shall be made after the permitted work is complete and prior to occupancy.

Operation & maintenance manual. *At time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency shall be placed in the building in accordance with the California Green Building Standards Code⁴, Chapter 4, Division 4.4. section 4.410*